









## Horticultural.

## MICHIGAN STATE HORTICULTURAL SOCIETY.

(Continued from last week.)

## Evening Session.

## INSECT ENEMIES AND THEIR DESTRUCTION.

W. A. Smith of Benton Harbor led this discussion with a short paper. The topic very naturally led to the mooted question of destroying the birds as well as insects. The arguments were very generally toward the humane side of the question. J. N. Stearns would catch the flea beetle on grape vines. J. Linnin would apply unleached ashes in large quantity to the roots of grape vines to prevent the cutworm from climbing to eat out the buds. A Benton Harbor member would employ a lamp, and kerosene beneath, in July and August, to catch the moth of the cutworm.

## QUINCE GROWING, IS IT PROFITABLE.

The Orange quince had most friends in the discussion. Champion is too late. Quince trees need mulching to keep the ground cool and moist beneath them. Quinces sold for three dollars per bushel this year. It wants high ground; the land should be plowed shallow. If the growth is forced, it is likely to be tender, and winter-kill. One member uses salt broadcast at the rate of 200 lbs. to the acre.

## METHODS OF PURCHASING NURSERY STOCK.

Mr. Gulley alluded to the agency plan, and said that our State has been supplied largely through agents of nurseries, but the agent who has only one or two varieties to sell at large prices because of their scarcity or signal value is very likely to be a fraud. In selecting from nursery stock do not ask impossibilities, that is, to have straight grainings, or to have the north side marked so that the tree shall set in the orchard in the same position in regard to the points of the compass as when it grew in the nursery row.

J. N. Stearns has no sympathy for the person who pays \$5 for what he only ought to pay 50 cents. It is the easiest thing in the world for one who does not know to find out from some neighbor who does.

Mr. Gulley sees no objection to a fruit grower paying large prices for something rare to test its value, but he must learn to judge whether the thing be possible in order to fulfil the claims of the agent.

A. C. Glidden never expects to see the approach of the millennium, nor to find a community where no person is gullible enough to purchase upon the representation of an agent. Every season is a witness of these foolish purchases, and they will continue.

The grape rot was considered, but as no one knew its cause or cure the discussion was barren of results.

## Wednesday Morning Session.

W. A. Brown read a paper on "Marketing Fruit." He held that, as it was impossible for the consumers to be reached directly by the growers, the commission man was a necessity and would always be, but the business might be done with a vastly less number than are now engaged as fruit dealers, and ought to be. The trouble with shipments by rail was a continual source of grievance to the grower, and would eventually force the business of fruit growing to locate contiguous to water ways for the transportation of fruit.

J. N. Stearns spoke of the outrageous manner in which express hands banged fruit packages about. He had seen berry crates thumped on the curb until the juice ran through, and no regard was paid as to which side up they were set. He had many times suffered the loss of two cents per quart on this account. He introduced a resolution, which was passed by a unanimous vote, condemnatory of such gross carelessness, and calling upon express companies for redress.

## POSSIBILITIES OF AN ONION CROP.

This fragrant topic elicited much discussion. A paper upon the subject was read by the Secretary, from the gardener at the Agricultural College. This crop requires careful attention to the preliminaries of both soil and culture. On much beds and on clay soils the grower is at the mercy of the climate and variations of temperature. A soil for onions requires manure in quantity rather than quality. The ground should be thoroughly pulverized. He would use the wheel-hoe instead of hand-weeding. Weeds should be held in perfect check or the crop suffers. Success in keeping depends upon cool and dry storage.

A. G. Gulley would take sand every time in preference to muck for onions, that is too variable. Manure should be placed on top and in large quantity. The roller need not be used on clay land. On any soil you must begin early. He goes through between the drill marks before the plants make their appearance. It is safe to calculate upon getting \$100 invested in every acre before the crop is turned into money. This will include manure, labor and a fair rental for the land. He cannot get a good crop with less than three weeding. Onions yield from nothing up to 1,100 bushels to the acre. If onions go above fifty cents per bushel they are generally a good paying crop. The crop must reach 200 to 300 bushels to pay the cost of production. To have a field pay they need come up one and a half inches in the row. Large onions are not the best keepers. Muck lands produce large, soft onions, while sandy lands make a solid crop and good keepers. Yellow Danvers sell best in the market. White onions will not keep.

J. N. Stearns would form a ridge over all small seeds, and rake it off just before the plants make their appearance; this cleans out all the weeds that would come with the crop.

Mr. Wild selects his seed from properly filled and fertilized heads, and attributes the excellence of his crop to the care he takes in the selection of his seed.

A. B. Copley said muck lands have always been considered the best of lands

for onions, but this discussion seems to demonstrate the fact that other soils are as good. Mr. Hathaway has raised onions at the rate of a bushel to 24 feet of row.

At this point the time set for the election of officers had arrived, and a committee of one from each of the local societies represented was chosen to select suitable men for the various offices to be filled. The committee reported the following, who were duly elected: President, T. T. Lyon; Secretary, C. W. Garfield; Treasurer, S. M. Pearsall; Member of Executive Board, A. G. Gulley.

## Wednesday Afternoon Session.

## GROWING AND MARKETING SQUASHES.

A good loamy soil with manure spread broadcast and well harrowed in is the very best preparation for squashes. The hills should be 10 or 12 feet apart on ordinary soil, and even 15 feet if the land is strong and in good condition. Plant about seven seeds to the hill, and thin down to three plants when they have attained sufficient size to select the strongest. The vines should not be lifted to allow the cultivator to pass. Gather as soon as the frost withers the leaves. Cut off the vine from the stem, and handle carefully. Hubbard squash is worth \$10 per ton to feed to cattle.

H. W. Davis would plant in corn fields, sticking the seeds in every third row, and in every third hill. Many horticulturists plant their young orchards to squashes. One man on 40 acres of orchard raised \$3,800 worth of squashes. Squashes are worth two or three times as much as pumpkins to feed to cattle and hogs.

W. W. Tracy would feed squashes in connection with grain to hogs and horses. It will not pay to feed them alone with hay. He once fed the inside of squashes, including the seeds, to cows and could see no injury resulting from it.

## SWEET CORN, VARIETIES AND METHODS OF CULTURE.

H. W. Davis planted ten acres this year, and grew it at an expense of 13 cents per 100 ears. Had from 50 to 60 thousand ears on the ten acres.

W. W. Tracy stated that the variety called Marblehead had a red cob, and if cooked slowly had a tendency to color the grains and make trouble with customers. It is not always safe to put too much faith in the different names attached to the different kinds of sweet corn. The Minnesota can be picked and sold earlier, because the kernels are broad and have the appearance of ripeness before being really fit to eat.

## MAKING AND MANAGING LAWNS.

The Secretary gave an illustration of a poor job, by sodding over a soil dug from the bottom of a cellar in the expectation that these dry sods would make a rich carpet of green.

Mr. Tracy would make the soil rich and deep, and then sow to Kentucky blue grass.

Mr. Wild would use bone dust as a fertilizer for lawns. Don't cut the grass too close, let it get quite tall at some time during the season; this gives the roots a good chance to grow.

Mr. O. C. Simons sent to the Secretary the names of 12 good native shrubs for ornamenting grounds. They are Prickly Ash, Wauchoo, Early Wild Rose, June berry, Shad bush, Witch Hazel, Red Twig, Do. wood, Snow berry, Indian Currant, Sweet Elder, High Bush Cranberry and Sassafras. There was some dissent from the recommendation of Elder and Prickly Ash, on account of sprouting.

A. C. G.

## Pomology at South Haven.

The *Allegan Gazette*, which is devoting considerable attention to the horticultural interests of Western Michigan and furnishes its readers some excellent literature on horticultural topics, reports the proceedings of the meeting of the South Haven Pomological Society at its November meeting as follows:

J. Lannin spoke of the grape, and said the season had been very bad for it. Most of the varieties cultivated had not ripened well, and he thought we should adopt earlier kinds. He thought Moore's Early and Worden good substitutes for the Concord and Delaware, being a full week or more earlier. We often have seasons, similar to the present, when the latter fall to ripen well. He said the Delaware had not paid him for the setting, and another spring should take them all out.

J. W. Humphrey inquired about the Golden Drop peach. He had set some along with other kinds, and all were growing under the same cultivation. The Golden Drop was badly broken by the wind when the other varieties were not injured in the least, and he concluded that the trees must be tender. He spoke of the new variety, the Shoemaker, bearing for the first time this year, and considered it very fine and large.

C. H. Wigglesworth considered the Concord grape as good as any grown, and the leading one for profit. Each kind of fruit has its season. The early varieties come into competition with fruit from other localities, consequently prices are not so good generally as in the height of the season of our own locality. The grape was a fruit that required much heat to ripen well and give it flavor. A season like the present was not warm enough to ripen any grape well in this locality. He considered the Hale's Early variety of peach as good as any variety as may well be set here. The Shoemaker was no better than the Amesen, and he would set none of either. The Golden Drop peach was one of the best for this locality, it being both a prolific and early bearer.

A. G. Gulley considered the Janesville grape very promising. It was early, very large and fine looking, and he thought it should be tested with others of the newer kinds. For a number of seasons he had made collections to exhibit at fairs, and for the last three years the seasons had been so unfavorable that he was unable to make a good show in the grape line. He considered the Vick strawberry one of the least worthy of cultivation.

F. S. Linderman had tried the Vick strawberry two years, and it bore ill. A. B. Copley said muck lands have always been considered the best of lands

orchard this season and those trees had never borne so well or such fine peaches. He considered thorough fertilization essential to good peach-growing.

C. M. Sheffer said the season had been very unfavorable in many respects to the fruit-growing industry. He took some exceptions to Mr. Linderman's idea of manure doing all for his peaches. He thought the season and cultivation had much to do about fine peaches or other nice fruit, which should not all be attributed to the manure.

J. G. Ramsdell spoke of Norton's Melon as a very fine dessert apple, and considered it valuable to raise for profit. It is an early winter variety. The Jeffries was another excellent dessert apple and of very high quality and attractive appearance. It always sells well and for much better prices than other apples. It is a late fall or early winter sort. Of straw-berries, he considered the Garfield variety one of the best, as to quality, and also a good bearer. He thought it would ship well. The Manchester had not done well with him this year; tried the Vick and the berries were small and unsatisfactory; would not consider Downing equal to Wilson. As to red raspberries, the Cuthbert was one of the very best. For black caps the Gregg was perfectly satisfactory, and he would set no other. He considered the Tyler, the Early Ohio, worthless. As to blackberries, he would recommend the Snyder, being always sure of a crop. It requires a strong, rich soil, and bears so full as to be small on light soil. For currants, the Victoria was the one to grow by all means. He considered the Downing gooseberry far ahead of any other. The Virgin grape would be a valuable variety and quite early. He considered Clapp's Favorite pear one of the best to plant, and said it should be picked some ten days before it turned yellow on the tree. If allowed to fully ripen on the tree the flavor was not so good and it was more likely to rot at the core.

A. G. Gulley agreed with Mr. Ramsdell in most of what he said, particularly about Norton's Melon and Jeffries apples, considering them valuable to raise for profit and as being the very best dessert apples. He thought the Clapp a very fine pear. The Bosc was one of the best as to quality and bearing. Of the new varieties of strawberries he said the Jewell was very promising. It was large and fine, nearly equaling the Sharpless as to size. He thought it would take the place of some of the older varieties. He considered the Sharpless quite uncertain as to bearing.

F. R. Linderman would grow the Downing gooseberry in preference to any other, and also considered the Victoria current the leading variety for profit.

## SO SORRY!

In answer to the many inquiries we are receiving and regrets expressed at our absence from the Pomological Society at Grand Rapids, Mich., we would simply say we could not get away from our business and home just at that time. We regret not being present—Purdy's Fruit Recorder.

As there were numerous inquiries as to the reason of the absence of Mr. Purdy, we publish the above explanation as a relief to those who may feel anxious about the matter.

## Washtenaw County Pomological Society.

The silence of your correspondent during the past months, does not in any way indicate that our society has ceased to be.

Our October meeting was omitted on account of fair, etc. The November meeting was a review of the State meeting at Grand Rapids, and the December meeting was devoted to a review of the year's work and the election of officers. The retiring officers had all unanimously re-elected, viz: J. A. Scott, President; Jacob Ganzhorn, Secretary; E. Baur, Corresponding Secretary; E. H. Scott, Treasurer.

At our next meeting we are to be favored with an essay on "Potato Rot," by Prof. Spaulding, of the Michigan University.

W. F. B.

## Information Wanted.

Will some one give me directions for making an asparagus bed for family use, soil sandy loam? Give full directions, time for planting. A SUBSCRIBER.

## Horticultural Notes.

THERE are five peach trees in Washington County, Ohio, which by incontestable evidence are from 75 to 80 years old. In the past 11 years they have missed a crop but one year. An apple tree in the same county, planted in 1793, is still in bearing.

AN Indiana farmer advocates cutting off part of the tops of potato vines when they grow too rank, and says in one case he gathered a crop of over 800 bushels from three acres after removing off the tops of the vines. Several instances were cited where Potchoblo potatoes had gone almost entirely to vine, when left to themselves, the potatoes not being worth digging.

FLOUR of sulphur is the great remedy employed in Canada to check mildew on grape vines, but the National Agricultural Society of France, in their session of a few weeks ago, brought into prominence another remedy, which M. Pasteur says is so effective that the inventor should be discovered if possible, and a suitable reward conferred upon him. The remedy is a mixture of milk of lime and sulphate of copper.

MR. WARR, of Massachusetts, kept his pear orchard under vigorous cultivation, and found he was losing two or three trees yearly by blight. He had an idea that the thrifty growth of the trees was a favorable condition to the growth of the fungus which causes blight, and he had the orchard down in grass. Since then his trees have increased in vigor and in the quality of fruit, and none have blighted. Mr. Warr keeps up the fertility of the soil by liberal top-dressing when necessary.

PETER M. GIBSON says, speaking of the Siberian crab seedlings, and of their crosses, that it would not be far from the truth to say that one to each 500 seedlings will produce a fair sized apple; and that no variety without the Siberian crab in it can withstand the

greatest extremes of their climate, and hence the necessity of a cross with this crab. He crosses the mongrels with other mongrels, selects the best result, and repeats the process.

When the orange blackberry rust gets into a plantation the only remedy is to dig up and burn the plants as soon as the disease shows itself, and if the patch is badly affected the best thing is to mow off and plow up, and plant with other crops for two or three years, planting the new patch in an entirely new place. The spores of this minute fungus are blown by the winds and spread, and neither road dust, lime, salt nor sulphur has the least effect.

THE Country Gentleman says the removal of young evergreen trees may be made any time during autumn, winter or spring—provided you observe the all essential requisite of carrying a large mass or cake of earth on the roots. A guide for a proper size for this mass of earth is to have it large enough to hold the tree erect against the wind when set on the surface of the ground. If you take this care, every tree will live. A precaution is required if the trees are removed from a sheltered place to one much exposed, in which case it will be best to wait till spring.

THE N. Y. Times says: "A young tree is made or marred in its first three years of growth. If it is not directed aright it grows all awry and gets past the remedy of the ordinary cultivator. It is easy for any person to train a tree in the way in which it should go if he begins in time, but a master hand is needed to bring an ill-trained tree into good shape without entire heading down and the consequent loss of three or four years' growth. A general rule for the pruning of young trees may be laid down as follows: Leave no more than three or four main limbs, and let these be evenly balanced by cutting away superfluous growth; cut out every branch and twig which grows inward, and prevent all cross growth of wood, leaving each main branch with an even and regular set of small branches, which give a hollow cup-like shape to the tree. This makes a basis for a most conveniently formed and handsome tree."

## Christine Nilsson.

the famous prima donna, has written an article on "The Right and Wrong Methods of Teaching Singing," for the YOUTH'S COMPANION. This is her first appearance as an author, but her article is said to be of remarkable value and interest.

## Apiarian.

## THE BEEKEEPERS.

Meeting of the North American Beekeepers' Association.

The National Convention of the North American Beekeepers' Society opened its city on Tuesday morning last. There were over a hundred delegates in attendance, about a dozen of whom were women. Among those present we noted such well-known apiarists as Charles F. Muth, of Cincinnati, W. E. Clark, of Oriskany, N. Y.; L. L. Langstroth, of Oxford, O., the father of American beekeeping; D. W. McLean, of Aurora, Ill.; T. G. Newman, of Chicago; L. C. Root, of Mohawk, N. Y.; Silas M. Locke, of Salem, Mass.; John Vandervoort, of Lafayette, Pa.; G. M. Doolittle, of Borodino, N. Y.; J. E. Isham, of Peoria, N. Y.; T. L. VanDorman, of Omaha; A. I. Root, of Cincinnati; Mrs. Lucinda A. Harrison, of Peoria, Ill.; S. T. Pettit, of Belmont, Ont.; President of the Ontario Beekeepers' Association; D. A. Jones, of Beeton, Ont.; Wm. F. Clark, of Guelph, Ont.; H. D. Cutting, of Clinton, Mich.; James Haddon, of Dowagiac, Mich.; W. Z. Hutchinson, of Rogersville, Mich.; M. H. Hunt, of Bell Branch, Mich.; President Willis, of the State Agricultural College, and Prof. A. J. Cook, of the same institution, whose writings upon the bee are known to every beekeeper on the continent.

The morning session was taken up in organization, reception of new members, issuing of badges, and reading the minutes of the last annual meeting. The convention then adjourned until 2 o'clock.

## AFTERNOON SESSION.

Promptly at 2 o'clock the meeting was called to order, President L. C. Root in the chair. In a few words he introduced to those present the Hon. Edwin Willis, President of the Michigan Agricultural College, who made a short but happy address of welcome to the delegates present, in which he referred to Detroit as the generous, beautiful metropolis of a State rich in nearly all natural resources, not the least among them being its record as a honey-producing State, in which earnestness and study on the part of the beekeepers were companion qualities. He touched upon the beauty of the calling as a business, and made a showing that wherever civilization advances there is found the honey bee as a feature of that civilization. To keep the business of honey-producing in a profitable condition, there must be built up a demand for the toothsome luxury, and in building up that demand the rights of the bees and the beekeepers must be protected against the ignorance and prejudice against bees which prevails, unfortunately, in many localities, particularly in the wine producing districts among the grape growers. Whenever the courts are called upon to decide between the wine press and bees—wherever those courts may be located—they will give the case to the bees; as between alcohol and honey, honey will win every time. Mr. Willis closed by extending the heartiest welcome to the apiarists and expressing a hope that their convention in Detroit would ever prove a delightful memory of beneficial experiences.

Responding to President Willis' address of welcome, President L. C. Root, of New York, expressed pleasure that Detroit had been chosen as the place of meeting, and said that beekeepers all over the country could not fail to profit by meeting with the apiarists of a State so well known as Michigan as a honey-producing State. After thanking the Michigan State Association of Beekeepers for the hearty welcome extended, President Root touched upon the importance of honey-making as a business, and the pleasures and profits derived from the business of beekeeping. He showed the importance of an organization among the

beekeepers, and proved conclusively that the opposition to bees on the part of agriculturists and horticulturists could arise from no other cause than an incomplete knowledge of the habits and abilities of bees, and that this opposition is directly against the best interests of those who offer the opposition.

Thos. G. Newman of Chicago, Secretary and Treasurer of the Association, was the next speaker, and he showed the necessity of a Beekeepers' Association. This necessity arises from the threats of prosecution and the continuous opposition to bees. He cited several cases where complaints against bees have been brought, where trials followed and where the judges were put to their mettle because of an absence of laws and rulings upon which to instruct the jury in such cases. He showed how the beekeepers can protect themselves by unity of action, by organization, and showed, too, that this organization, cannot be supported without money. In conclusion Mr. Newman expressed a hope that there might be a union of effort if not a union of organization between the Beekeepers' Association and the Beekeepers' Union, and he felt that the two societies should be joined.

At the close of Mr. Newman's remarks a variety of coinciding opinions were expressed by a number of those present.

W. F. Clark, of Guelph, said that the beekeepers had a natural and moral right to engage in their business, and moved that a committee be appointed to consider the question of preparation to meet and fight the opposition brought by people who are ignorant on the question of beekeeping. After some further discussion the question was referred as asked, the committee appointed consisting of W. F. Clark, of Guelph, President Haddon, of the Beekeepers' Union; T. G. Newman, of Chicago; W. E. Clark, of Oriskany, N. Y.; S. T. Pettit, of Belmont, Ont.; Chas. F. Muth, of Cincinnati, and Prof. A. J. Cook, of Lansing.

President Root then proceeded to read his annual address, in which he said he presented a few facts with a few suggestions which he hoped would prove serviceable in the Association's considerations of the best interests of the Society and would aid in completing arrangements for carrying on the campaign which has been forced upon the beekeepers. A crisis in the history of beekeeping has been reached, and it is for the apiarists to meet it in an earnest, honest way. Heretofore the beekeepers have been too enthusiastic, and perhaps a little too hasty. This has been unwise, as by it the members of the Association have been charged with over-anxiety. The President advised modest and moderate beginnings in engaging in the business of bee culture and to increase in the traffic as experience will warrant. The time of large profits in the production and sale of honey has passed, and this should be admitted by all who are in or may engage in the business. First, the business is an honorable one and it may be made an essential branch of business by any agriculturalist who chooses to engage in it. Second, honey is a wholesome and desirable article, and thirdly it is or may be furnished at our very doors. Heretofore beekeepers have been extravagant in expenditures, incurring large expense in unnecessary manipulation of bees, hives and honey. This extravagance must be cut down and will be cut down, and the members, by unity of action and interchange of experience, will gain much light that is needed on the subject. The President proceeded to show from his point of view, that the honey market is overstocked, that the beekeepers cannot gain fair profit as the market now is and that, in order to maintain the importance of their business, they must use individual effort in their own localities to build up a trade of their own. Mr. Muth, of Cincinnati, was cited as a beekeeper who has done much to build up a market for his honey in and about his own locality. The paper closed by showing that at best the honey market is not at all satisfactory.

Considerable discussion on the President's address was indulged in, after which it was awarded a unanimous vote of thanks. The following papers were read: "Production of Comb Honey," by G. M. Doolittle, of Borodino, N. Y.; "Production of Extracted Honey," Chas. Dadant, of Hamilton, Ill., which were well received and very interesting.

## EVENING SESSION.

The evening session was devoted to discussions of various questions which had been presented to the society, which discussion showed that on the matter of production the members seem quite agreed while on the question of markets and marketing there were diversities of opinion in accordance with the location of the beekeeper's home. Unfortunately the discussions were not enjoyed by all, owing to the overcrowded condition of the hall.

## WEDNESDAY MORNING.

The meeting was called to order by President Root, and Mr. C. F. Muth presented a paper on "Marketing Honey," in which he favored small sections.

In the discussion which followed, Mr. Walker favored sections that would hold one and a quarter pounds. Mr. Haddon believed it would injure the business to change the size of sections from 4 1/2 by 4 1/2 inches, which contain about one pound of honey. Sections vary greatly. He had tried to keep the price of honey up to 16 cents in his locality, at which price it paid the apiarist fairly well. He did not want prices to go up or down from those figures. He favored this comb, it presented more surface, looked better and suited buyers better. When his sections (he used 4 1/2 by 4 1/2) did not fill well he inverted them and this caused the bees to fill them out.

Mr. Newman of New York, believed a little larger section would be preferable. He used a section of which six filled the space occupied by eight of the one pound, or 4 1/2 inch, sections. Found they were generally filled better than the smaller ones.

Mr. Isham, of Rochester, N. Y., thought beekeepers had themselves to blame for not selling more honey. They formerly had two pound sections, which suited

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dealers and customers. Beekeepers compelled them to sell one pound sections and reduced the amount sold just so much, as it was as easy to sell two pound sections as the smaller ones, and just about as many were sold.

Mr. Clark of New York, had put his honey into a certain sized section, 5 1/2 by 8 1/2 inches, and his merchant had told him it was a good size.

Mr. Newman, of New York, asked Mr. A. I. Root if he could not sell just as many 1 1/2 pound packages as of one pound?

Mr. Root thought the one pound package much the easiest to sell, as it met the views of city customers. Even one-half pound sections sold well with him. But with country customers it was different. They took large packages, say five pounds, buckets, or even barrels. But he was certain if he should attempt to sell in only large packages at his store in Cincinnati he would be left.

Mr. Manning of Vermont, said he shipped 15 tons of honey to Boston two years ago, about November first. The largest portion of it was in one pound sections, the balance considerably larger. He received returns from the commission man in December for his one pound packages, and from the larger ones in March. While the larger packages were on hand the dealer had written him inquiring if he could not ship him 20 tons in one pound sections. This year he had shipped his entire lot in one pound sections and had received returns for all, some 23 tons. The same parties reported they had 3,000 two pound packages which could not be sold, although offered at a lower price, until the one pound ones were all gone. If beekeepers would all adopt the 4 1/2 by 4 1/2 sections they could be furnished at a cost of perhaps \$3.50 per thousand, or at most \$3.

Mr. Haddon favored small packages; had found 1 lb. sections a good thing, and believed they had come to stay.

The President said he believed there was a demand for different sized packages. Had found a two pound package sold well in the New York market. He suggested that, as the programme was a lengthy one, the convention had better take up another subject.

Mr. Thomas G. Newman, of the *Bee Journal*, read a paper on "Bee Pasturage." He first gave some statistics in regard to the business of beekeeping in North America. He said there were about 300,000 people in the business, and they produced an aggregate of about 100,000,000 lbs. of honey, worth about \$15,000,000. The increasing magnitude of the industry showed the necessity of growing pasturage for the bees. There had been great advancement in the methods of bee keeping, and to show this he adverted to the manner of marketing honey some years ago, and now. Then broken comb, filled with dead bees, etc., was offered in the market. Now small neat packages, perfect in every way, tempted the purchaser. Stock men, he said, grew pasture for their herds and flocks, and their success was in proportion to the tons of hay and bushels of grain they grew for them. Beekeepers should no longer depend upon the native forests, which were becoming depleted, or their neighbors' clover fields, thereby running the risk of getting into law suits. The woodman's axe was clearing off the forests, the farmer's plow was turning up the clover fields and destroying the carpet of natural flowers in their fields. The bees would soon have to get along on half rations, kill their drones, and wait for a chance supply from fence corners. He then gave a list of honey producing plants, with their season, and said he believed the time had come when beekeepers must begin to consider this question.

Mr. Boardman of Norwalk, Ohio, spoke of the means he had adopted of getting bass-wood trees grown for shade in place of others. He offered to supply all free that the citizens would plant, and one beautiful street, known as Linden Avenue, was planted entirely with them. The trees furnished a large amount of honey. Mr. D. York said he had set out a number of basswood trees on his farm a year ago last spring. This year they had blossomed. Had found them easy to transplant.

In answer to a question, Mr. Newman said he believed it would pay to grow bee pasturage on land worth \$50 per acre. Mr. Hubbard of New York, spoke of a new honey plant grown by a Mr. Chapman, which he thought valuable.

Mr. Chapman was present and exhibited the plant. Did not know its name, but it was common in the south. It looked like the teasel, but the head was flatter.

Red clover was strongly indorsed by many, as it paid to grow it outside of its use as a honey plant. Alaska clover was highly recommended as furnishing most excellent bee pasturage, and some 16 or 20 members reported it as doing well with them.

Mr. Haddon spoke of the plant called Pleurisy as a good honey plant with him. An adjournment was then taken until 2 o'clock.

(Continued next week.)

A CORRESPONDENT of the *Bulletin of Alsace-Lorraine*, tells how he stopped the robbing of a hive by means of a solution of carbotic acid. A colony having been attacked by robber bees, he made a weak solution of the acid, with which he sprinkled the hive and its approaches. The robbers at once withdrew, and 15 minutes later he sprinkled with the same solution, all the other hives, including those occupied by the marauders. He had no further trouble of the kind.

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